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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/067,738	02/08/2002	Bryan J. Donoghue	3812-US	9291

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3COM CORPORATION  
350 CAMPUS DRIVE  
MARLBOROUGH, MA 01752-3064

EXAMINER
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PHUNKULH, BOB A

ART UNIT	PAPER NUMBER
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2616

DATE MAILED: 10/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/067,738

Applicant(s)

DONOGHUE ET AL.

Examiner

Bob A. Phunkulh

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1, 3-13, 17, 19-42 is/are pending in the application.
- 4a) Of the above claim(s) 33-39 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 17 and 19-29 is/are allowed.
- 6) ☒ Claim(s) 1, 3-13, 30-32 and 40-42 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

This communication is in response to applicant's 08/19/2006 amendment(s)/response(s) in the application of **DONOGHUE et al.** for "**CASCADE SYSTEM FOR NETWORK UNITS**" filed 02/08/2002. The amendment/response to the claims have been entered. Claims 2, 14-16, and 18 have been canceled. No claims have been added. Claims 1, 3-13, 17, 19-40 are now pending.

### ***Election/Restrictions***

This application contains claims 33-39 drawn to an invention nonelected with traverse in a response filed in 3/15/2006. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 30-31 and 40 are rejected under 35 U.S.C. 102(e) as being anticipated by *Fite, Jr. et al.* (US 6,496,502), hereinafter *Fite*.

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Regarding claims 30 and 40, &&& discloses a network unit capable of use within a cascaded stack of network units, and including:

a multiplicity of ports for receiving addressed data packets from and sending packets to an external network (each unit includes a plurality of ports 1-8, see figure 7);

a look-up database for relating address data in packets to forwarding data which includes an identification of at least one port and a switching engine which responds to forwarding data to direct packets to at least one corresponding port (CAM, see figure 2); and

at least one cascade port for transmission of data packets between the unit and other units in the cascade stack (see ports connecting switching in stack, see figure 2);

wherein the unit provides for each packet that it receives at one of the said multiplicity of ports and forwards from a cascade port a header field that indicates whether a destination port in the stack is known for the packet and a header field for identifying the destination port and the unit on which the destination port is located (see col. 2 lines 25-39).

Regarding claim 31, *Fite* discloses the header includes a source port field that identifies a port at which the packet has been received and the unit containing that port (see figure 4).

***Claim Rejections - 35 USC § 103***

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The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 30, and 40 rejected under 35 U.S.C. 103(a) as being unpatentable over *Byham et al.* (GB 2,350,032), hereinafter *Byham*, in view of *Sang et al.* (US 6891843), hereinafter *Sang*.

Regarding claim 1, *Byham* discloses a network stack (see figure 1) comprising:  
a plurality of network units each of which includes a multiplicity of ports for receiving and forwarding addressed data packets (the units 1-3, see figure 1, ports are not shown in figure 1), at least two cascade ports( ports connecting between the units, see figure 1) and a switching engine for forwarding received packets to at least one port in accordance with address data in the packets, and

a cascade connection comprising for each of two opposite directions (the down link between the units, see figure 1) around the stack at least one unidirectional path (the uplink between the units, see figure 1) for data packets composed of links each between a respective cascade port on a network unit and a corresponding cascade port on the next network unit.

*Byham*, fails to explicitly disclose that the cascade connection comprising two unidirectional paths.

*Sang*, on the other hand, discloses a plurality of switches are interconnected by unidirectional output buses 52a-52d for forwarding data between them (see figure 4 and col. 6 lines 43-61).

Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention was made implement the teaching of *Sang* in the system taught by *Byham* especially interconnecting the cascades switches with at least two unidirectional links in order to permits the sharing of system resources while providing fault protection.

Claims 8-13, 41-42, are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of *Byham-Sang* as applied to claim 1 above, and further in view of *Fite*.

Regarding claims 8-13, the combination of *Byham-Sang* fails to explicitly disclose that the packet includes a header source field which uniquely across the stack identifies given port and the respective network unit.

*Fite*, on the other hand, discloses the packet includes a header source field which uniquely across the stack identifies given port and the respective network unit (bits 48-55 indicates the destination of switch, see col. 4 lines 40-46).

Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention was made includes the teaching of *Fite* in the system taught by the combination of *Byham-Sang* in order to properly route the packet to correct destination in cascaded system.

Regarding claim 41-42, the combination of *Byham-Sang-Fite* fails to disclose that discarding the packet if the header field indicates that the packet has traversed all the network units.

However, it would have been obvious to one having ordinary skill in the art at the time of invention to discard or drop the packet if the header field indicates that the packet has traversed all the network units in order to keep track of the incoming packet and to avoid unnecessary looping of the packet in the cascaded system.

Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Fite*.

Regarding claim 32, *Fite* fails to disclose that discarding the packet if the header field indicates that the packet has traversed all the network units.

However, it would have been obvious to one having ordinary skill in the art at the time of invention to discard or drop the packet if the header field indicates that the packet has traversed all the network units in order to keep track of the incoming packet and to avoid unnecessary looping of the packet in the cascaded system.

***Allowable Subject Matter***

Claims 17, 19-29 are allowed.

***Conclusion***

**Any response to this action should be mailed to:**

The following address mail to be delivered by the United States Postal Service (USPS) only:

Mail Stop \_\_\_\_\_  
Commissioner for Patents  
P. O. Box 1450  
Alexandria, VA 22313-1450

**or faxed to:**

(571) 273-8300, (for formal communications intended for entry)

**Or:**

The following address mail to be delivered by other delivery services (Federal Express (Fed Ex), UPS, DHL, Laser, Action, Purolater, Hand Delivery, etc.) as follow:

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220 20<sup>th</sup> Street South  
Customer Window, Mail Stop \_\_\_\_\_  
Crystal Plaza Two, Lobby, Room 1B03  
Arlington, VA 22202.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Bob A. Phunkulh** whose telephone number is **(571) 272-3083**. The examiner can normally be reached on Monday-Tuesday from 8:00 A.M. to 5:00 P.M. (first week of the bi-week) and Monday-Friday (for second week of the bi-week).



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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor **Wellington Chin**, can be reach on **(571) 272-3134**. The fax phone number for this group is **(571) 273-8300**.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Bob A. Phunkulh  
Primary Examiner  
TC 2600

**BOB PHUNKULH**  
**PRIMARY EXAMINER**

*Technology Division 2616*  
*October 30, 2006*